ABSTRACT OF DISCLOSURE

A technique and apparatus therefor adapted to treat *in situ* specified tissue, especially a malignant tumor, use being made of electrodes implanted in the tissue at spaced positions. Applied across the electrodes is a voltage causing a current to flow through the tissue to be treated. This current in one embodiment of the invention produces an electrochemical reaction yielding multiple reaction products, some of which are cytotoxic agents destructive of cancer cells, the voltage being regulated to optimize the yield of those agents having the greatest efficacy. In another embodiment, fed to the tissue is one or more reagents which when current flows through the tissue react with the material of an electrode to yield a cytotoxic agent *in situ*. Alternatively, the surface of the electrode can serve as a catalyst for the formation of the cytotoxic agents.